

young birds. The large proportion of spotted birds seems to shew that this plumage is kept for a long time.

This bird utters a plaintive tremulous whistle, which the natives articulate as "mbofio," with the last vowel prolonged. This is one of the commonest sounds of the dark, lonely forest.—G. L. B.]

V.—*Ornithological Notes from Japan.*

By COLLINGWOOD INGRAM, M.B.O.U.

(Plate IV.)

I. INTRODUCTION.

THE observations incorporated in the following paper are the outcome of my second visit to Japan, in the early summer of 1907. Reaching Nagasaki on April 20th of that year, I at once hastened to the capital, where I wished to apply to the government as soon as possible for a special permit to collect birds—the legitimate shooting-season having been already closed, on April 15th. But it was only after three weeks of tedious correspondence and many lengthy interviews that the necessary permission was granted, an unforeseen delay that prevented me from doing any real work until the second week of May. Although poaching and illicit shooting are rampant almost everywhere in Japan, a permit is quite needful for the foreign collector, whose movements, especially in the country districts, are naturally followed by the inhabitants with curious interest.

After spending a week or so in the vicinity of Kioto and Nikko I ultimately left Tokio for the slopes of Fujiyama on May 14th. At the recommendation of Mr. Owston the village of Subashiri, on the eastern slope of that mountain, was chosen as my head-quarters. In this neighbourhood I stayed for nearly three weeks and with the able assistance of one, and sometimes two or more Japanese collectors, worked the country very carefully for a radius of some eight or nine miles round the village, at times reaching elevations of 5000 ft. or even more. However, it was still too

early in the season for these higher districts, and I found that better results were obtained by remaining in the neighbourhood of Subashiri itself, which, roughly speaking, is not more than 2300 ft. above the sea-level.

Rising 12,370 ft. from Suruga Bay, the volcano of Fujiyama is so vast compared with the adjoining mountains that it might almost be described as an isolated peak. Roughly conical in shape, from base nearly to summit, its sides ascend with a gentle, sweeping gradient; these, up to 1500 ft. or more, are richly cultivated and furnish crops of rice and other cereals. The cultivated area is followed in turn by extensive tracts of rough, coarse grass, which run up and into the zone of forest-growth. The forest itself reaches to about five or six thousand feet, and considerably more on the western slope. Subashiri is situated at the edge of the forest and the majority of its inhabitants are either wood-cutters or charcoal-burners. The village, therefore, forms a very desirable centre for ornithological work, commanding, as it does, so many types of country and different elevations.

As the forest is periodically cut down and then planted fresh, in many parts the trees are young and scattered; and it was in these localities that I found bird-life most abundant, although Woodpeckers, Tits, and Creepers always shewed a preference for the older timber. Of course, Larks, Snipes, and many other species were only to be encountered on the open wastes of grass, while Pheasants, Shrikes, and Buntings were commonest in the scrub that fringed the woodlands. By the first days of June these latter districts became surpassingly beautiful, for the azalea (*Azalea mollis*)—which constitutes the greater part of this scrub—then came into flower and covered many acres of land with its bright orange-pink blossom.

Before I reached Subashiri nearly all the migrants (with the exception of the Cuckoos and perhaps the Swifts) had taken up their summer-quarters, and I am therefore unable to supply any dates of the spring arrival of Japanese birds; and this is somewhat disappointing, as so very little is at present known of their movements. On the whole, however,

one cannot but help feeling satisfied with the results of the expedition, for, besides taking nests of *Geocichla varia* (and thus procuring for the first time indisputably authentic eggs of this so-called "British" bird), I discovered the nesting-ground of *Emberiza yessoensis* and was able to observe the interesting breeding-habits of *Gallinago australis*, while the nests and eggs of other rare species were also secured. Whenever I deemed it necessary to identify the bird (which I did in almost every case) pains were taken to procure the parent at the nest, but, as a rule, this was only done with the first clutch of eggs, the species being afterwards recognised by watching the bird return to its nest through a pair of binoculars.

Although the avifauna of Japan has so long been known to science, practically nothing has been written about the habits of the birds, and Jouy (Proc. U.S. Nat. Mus. 1883) is among the few authors who have even referred to the subject. Temminck and Schlegel, in their 'Fauna Japonica,' give no field-notes; and Messrs. Blakiston and Pryer, who did so much for Japanese ornithology, devoted most of their time to collecting; while Seeböhm, who wrote 'The Birds of the Japanese Empire,' never even visited the islands, and his work is little more than an elaborated "list." A full bibliography, up to the date of its publication, will be found in the last-named volume.

In the present notes, for the sake of convenience, I have followed Seeböhm's arrangement of the species. The native names were almost all gleaned from the Japanese themselves, the few exceptions being taken from Blakiston and Pryer's "Birds of Japan" published in the 'Transactions of the Asiatic Society of Japan' in 1882.

Let me conclude by mentioning my deep obligation to Mr. Alan Owston, of Yokohama, who most generously placed at my disposal one of his experienced Japanese collectors. This man was not only thoroughly familiar with the habits of all the commoner species, but was also an expert skinner, and therefore of the greatest help to me, and, in addition to this, as I was always accompanied by a good interpreter he

was frequently able to give me very valuable information. I also wish to express my thanks to Dr. Ijima, of the Tokio University, and to the members of the British Legation for the kind way they assisted me in procuring my collector's permit.

II. FIELD-NOTES ON THE BIRDS OBSERVED.

1. *Geocichla varia* (Pall.). White's Ground-Thrush.

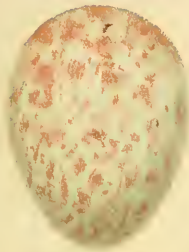
Geocichla varia Seebohm, B. Jap. Emp. p. 43; Ingram, Bull. B. O. C. vol. xxi. p. 18.

Jap.: Toratsugu.

(Eggs, Pl. IV. figs. 2, 3.)

White's Thrush was only met with in a wild state on the slopes of Fujiyama, but a single individual was seen in a cage at Kioto, near which town it had apparently been trapped. During the breeding-season this species seems to remain exclusively in the deep parts of the forest, where, being thinly distributed and of a very shy disposition, it is extremely difficult to observe. This perhaps explains the fact that hitherto little or nothing has been known of its habits. The eggs attributed to this bird by Seebohm (Eggs of Brit. B. pl. 50. fig. 1) and Newton (P. Z. S. 1897, p. 892) are so different from any of those in my series that it is highly probable that they belong to some other species. With regard to the first case, two of the original eggs (taken by Swinhoe from an unidentified nest near Ningpo, China) are now in the British Museum, where I have been permitted to examine them. His often-quoted description of the nest is also at variance with my own experience in Japan. On the other hand, the nest procured by one of Mr. Owston's native collectors and now exhibited in the Bird-Gallery of the Natural History Museum agrees closely with those taken by me, and is doubtless authentic.

I was informed by the Japanese that this Thrush only sings when the weather is cloudy and overcast and that its song is very melancholy in tone. But, on the whole, it must be an extremely silent bird, for I did not once hear it utter a note, although, for nearly three weeks, I was daily collecting



2



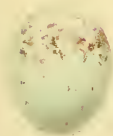
1



3



4



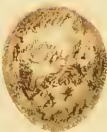
5



6



7



8



9



10

H Gronvold, pinx

Pitcher L^d Lith

FIGURES OF EGGS OF JAPANESE BIRDS.

in a district where it could have been by no means rare.

News that a nest of this species had been found by a peasant was brought to me on May 19th. I was taken by the finder to an old part of the forest on the eastern slope of Fuji, where the timber was very large and the undergrowth, of saplings and shrubs, exceptionally thick. Here I was shewn a half-fallen tree, and on its slanting trunk, about 7 ft. from the ground, I saw a large, moss-covered nest. Through my glasses I could clearly discern the sitting female—an unmistakable White's Thrush. At almost the first alarm she slipped noiselessly away and was instantly lost to view among the thick foliage. In the case of all the other nests taken by me the sitting birds behaved in exactly the same manner; once disturbed they apparently flew right away, thereafter remaining absolutely silent and shewing no further signs of anxiety.

The first nest contained four eggs, almost fresh. The second nest, with three slightly incubated eggs, discovered on May 21st, was placed on the lateral branch of a spruce some twenty feet from the ground, in much the same situation. Another, found on May 28th, was also placed in a spruce, but at a greater height, being in the fork of the tree at least thirty-five feet from the ground. This nest contained four eggs, but incubation had so far advanced that it proved impossible to blow them. Two other clutches, of five and four eggs respectively, were taken on May 24th and June 3rd, while two nestlings were brought to me on May 21st. Judging from the information gathered, thirty-five feet is an exceptional height for this species to build, and it apparently prefers the fork of a tree, somewhere in the heart of the forest, from twelve to twenty feet above the ground. The nests themselves varied very little. Externally they were composed almost, if not entirely, of moss, a very few small twigs, and sometimes a leaf or two, being introduced into the body of the nest, while the cavity itself was strengthened with mud and then lined with pine-needles. In Japan the latter material is, I believe, peculiar to this bird, and my collectors

told me that nests of White's Thrush could always be distinguished by this means. In some cases I found these pine-needles almost green and quite fresh-looking, so that I have little doubt the bird plucks them from the living tree when constructing its nest.

The eggs of this species are most like those of the closely allied *G. linnulata* (Lath.). In typical examples the bluish ground-colour is almost entirely obscured by the light red markings. These, in most instances, are so densely and evenly spread over the shell that they give the egg a uniform greyish-red appearance. A few specimens, however, have the overlying marks or freckles very faintly visible. But it is a curious fact that, in almost every clutch, there will be found one egg quite different from the rest and more or less distinctly spotted. The Japanese collectors declared that this was invariably the last to be produced and that until it was deposited they always left the nests untouched; and judging by the condition of the yolk when blowing I believe their statement to be perfectly correct. Mr. E. C. Stuart Baker informs me that an exactly similar diversity occurs in the case of *G. citrina* in India. The "spotted" type of egg is fairly evenly splashed or spotted with lilac underlying and light red overlying marks on a ground-colour of pale greenish blue. The size varies from 1.4×0.92 to 1.27×0.93 in.; and the average measurement may therefore be seen to be larger than that of any other Palearctic Thrush.

The great difference in coloration is shown in the figures in the Plate, both eggs having been taken from the first clutch, found on May 19th. The two remaining eggs resemble that depicted in fig. 3, which is a typical example; the markings on fig. 2 are unusually well-defined.

2. *GEOCICHLA SIBIRICA* (Pall.). Siberian Ground-Thrush.
Geocichla sibirica Seebohm, B. Jap. Emp. p. 44.
Jap.: Mamejiro.

This is apparently a rare bird on Fujiyama, and I consider myself very fortunate to have obtained a nest. It seems to

be a species that retires, like *G. varia*, to breed in the wilder parts of the woods. The single nest that came under my notice was discovered on May 28th by a wood-cutter working in the heart of the forest. It was placed on the thick bushy crown of a small spruce, and was not more than eight feet from the ground. In general appearance this nest was very like that of *Turdus merula*, for there was practically no moss used in the structure; but the dimensions were, of course, larger. The female sat much more closely than any of the other Japanese Thrushes. While I was inspecting the nest I heard the male singing close by: its song was very disjointed and the notes, frequently repeated, were uttered separately and without definite sequence.

Mr. Dresser, writing of this species ('Ibis,' 1901, p. 448), remarks that Japanese eggs (received through Mr. Owston) are considerably larger and more finely marked than those collected by Mr. Popham in Siberia, but that none have the ground-colour bluish. With regard to the first two statements, my eggs agree with this description, but the ground-colour is of a decided pale greenish-blue tint. The eggs are lightly marked with lilac and reddish brown. Average measurement 1.2×0.8 in.

3. *TURDUS CARDIS* Temm. Japanese Grey Thrush.

Merula cardis Seeböhm, B. Jap. Emp. p. 45.

Jap. : Kurotsugu.

This is the finest singing Thrush in Japan, and has a song almost, if not quite, as beautiful as that of *T. musicus*, which, indeed, it somewhat resembles. Like that bird it selects an elevated situation from which to sing, and is heard at its best early in the morning and at sundown. Its other notes and habits are also truly Thrush-like. I found it tolerably common both at Nikko and on the sides of Fujiyama. In the latter district nidification did not commence until late in May, and I only succeeded in finding two nests with eggs, although I was shown others in course of construction. These I had great trouble in identifying, for the females

were remarkably cautious and refused to return to their eggs while there was the least sign of danger. I was therefore obliged to waste the best part of a morning before being able to procure a female at the nest.

The structure is usually placed in the branches of a coniferous tree about ten or twelve feet from the ground. Externally moss is very largely used; a distinct cup is then formed of a mixture of clay and fragments of rotten wood, which in turn is lined with rootlets, black fern-stalks, and a few dried grass-bents.

The eggs are creamy grey, boldly blotched with lilac underlying marks and spotted with rusty-brown overlying marks. Jouy says (Proc. U.S. Nat. Mus. 1883, p. 279) that they are rather larger than those of *T. chrysolaus*, but my specimens are smaller, averaging only 1.0×0.77 in.

4. *TURDUS CHRYSOLAUS* Temm. Japanese Brown Thrush.

Merula chrysolaus Seeborn, B. Jap. Emp. p. 48.

Jap.: Akahara.

The Japanese Brown Thrush was very plentiful near Subashiri, where, owing to the facility with which its nests could be found, I was able to procure a fine series of eggs. It is a good songster, but its voice is not so rich or varied as that of the preceding species. When rising from the ground it utters a noisy chattering cry very like that of a Blackbird, and it also has a similar note when there is danger near its nest—a thin, piercing sound. It builds in a variety of situations, but the favourite site is in the branches of a small cryptomeria, pine, or spruce from five to fifteen feet above the ground. The nests themselves vary about as much as do the eggs: commonly they are composed of dried grasses, straw, roots, &c., but more rarely they are made almost entirely of green moss and lined with dead leaves; I have also found horsehair used. The whole structure contains very little, or usually no mud, and in this respect always differs from the nest of *T. cardis*, which has a complete sub-lining of a clay-like substance.

The usual type of egg has the ground-colour pale greyish

green or greyish brown, which is more or less thickly and evenly spotted with rusty brown and purplish grey. Other specimens are bright bluish green, with fewer and darker spots distributed round the larger end. Between these two extremes intermediate variations occur in the eleven clutches in my possession. The dimensions vary from $1.19 \times .75$ to $1.0 \times .81$ in.

5. *LARVIVORA CYANE* (Pall.). Siberian Blue Robin.

Erithacus cyaneus Seebolin, B. Jap. Emp. p. 53.

Larvivora cyane Swinhoe, P. Z. S. 1871, p. 358.

Jap. : Koruri.

(Egg, Pl. IV. fig. 6.)

This species is fairly abundant in the Subashiri woods, and was especially noticeable when I first arrived, about the

Text-fig. 1.



Sectional drawing of the nest of *Larvivora cyane*.

middle of May, owing to the numbers of males that were then singing: they had probably only just taken up their summer-quarters. This bird lives in the dense forest undergrowth and rarely shews itself, in consequence of which the females are hardly ever seen, and the only female observed by me was that procured for the identification of the nest. It does not possess much of a song, but utters a loud musical chatter, somewhat resembling the cry of the Japanese Robin (*Erithacus akahige*), a bird, curiously enough, that I never met with in a wild state, although it is very common in cages. On May 31st I found a nest of *L. cyane* containing four eggs

in a thick shaded part of the wood. It was placed at the hollow root of a small tree, where it was so deeply sunk in the ground that the bright blue eggs were completely out of sight (see text-fig. 1, p. 137). Either by intention or accident the outermost wall of the nest-cavity was quite flat and the eggs, lying close up against it, were completely hidden from the front, and could only be seen with difficulty from a point immediately above.

When approaching the nest the female uttered a low *tak, tak*, and kept cocking her tail over her back like a Nightingale.

A second clutch of five eggs was brought to me on June 3rd.

The eggs, of an unspotted turquoise-blue, are somewhat oval in shape. The nine examples in my collection average 0·81 by 0·6 in.

6. *CINCLUS PALLASI* Temm. Pallas's Dipper.

Cinclus pallasi Seeböhm, B. Jap. Emp. p. 54.

Jap.: Kawagarasu.

Common on many of the torrential streams and especially so in the Nikko range of mountains. A pair were nesting under a little cascade close to the Mangwanji at Nikko, and were carrying food to their young, heedless of the many tourists that were then visiting the place. As this was early in May and the young were nearly fledged, this species must be an early breeder. I was once surprised to see one of these Dippers settle, like a diminutive Gull, on the surface of a small reservoir, in which position it remained for about half a minute before flying off.

7. *PRATINCOLA MAURA* (Pall.). Siberian Stonechat.

Pratincola maura Seeböhm, B. Jap. Emp. p. 57.

Jap.: Nobi-taki.

Plentiful on Fujiyama, where I took two clutches of eggs in the third week of May: I found another nest with young on June 5th. The song and habits of this species do not differ materially from those of *P. rubicola*. The eggs in my possession, and others that I have seen from Japan, are rather darker than those of the European bird, but are otherwise very similar. Average measurements 0·72 × 0·52 in.

8. NEMURA CYANURA (Pall.). Red-flanked Bluetail.

Tarsiger cyanurus Seebohm, B. Jap. Emp. p. 58.

Jap.: Shitaki.

This bird was encountered in small numbers at a high elevation near Chuzenji, and again near Subashiri. In the latter district it is said to breed further up the side of Fuji later in the season. In Japan, therefore, it is in all probability a mountain-loving species. Its eggs are said, by the Japanese collectors, to be pure white.

9. CYANOPTILA BELLA (A. Hay). Japanese Blue Flycatcher.

Niltava cyanomelæna Seebohm, B. Jap. Emp. p. 59.

Xanthopygia cyanomelæna Sharpe, Cat. B. Br. Mus. iv. p. 251.

Cyanoptila bella Sharpe, Hand-list of B. iii. p. 238.

Jap.: Oruri.

I found this beautiful Flycatcher common in many parts of Japan and especially in the more hilly and densely-wooded districts. Rising to the top of a tree the male will sing very prettily for a long time, but its song is by no means varied. When collecting on the slopes of Fuji, I found three nests of this bird. All of them were placed in the deep recess of a damp, moss-covered bank by the side of a burn. The mossy exterior of these nests harmonized so perfectly with their surroundings that, from a little distance, they were extremely difficult to perceive. However, once withdrawn from their natural positions, they were found to be very ornate, for the inner lining was composed almost entirely of the bright orange-coloured "flowering stalks" (capsule and seta) of a certain kind of moss. The eggs were likewise conspicuous, being very light in coloration. I cannot say whether this species invariably uses the above-mentioned material for a lining, but from enquiries it appears to almost always do so in the neighbourhood of Subashiri. Under these circumstances it would seem that the presence of an overshadowing ledge is a necessary protection for the nest.

The eggs are of a warm cream-colour, with sometimes an indistinct zone of grey and buff speckles. Size 0.79 × 0.61 in.

10. *XANTHOPYGIA NARCISSINA* (Temm.). Narcissus Flycatcher.

Xanthopygia narcissina Seebohm, B. Jap. Emp. p. 61.

Jap. : Kibitaki.

(Egg, Pl. IV. fig. 5.)

On the whole, the Narcissus Flycatcher is a common bird in Japan, and I observed it in some numbers at Kioto, Nara, Nikko, and many other places. It prefers the dark, big-timbered parts of the forest that are studiously avoided by the majority of other species. In the silence of these surroundings the persistent reiteration of its melancholy song has a dreamy effect upon the listener and soon becomes intolerably wearisome.

When in the Subashiri district towards the end of May, I took two clutches of eggs. The nests, both placed in the cleft or hollow of a half-rotten tree, were somewhat loosely constructed of moss, leaves, and rootlets, the last being used as a lining. The first set of eggs were pale greenish blue in ground-colour, spotted round the larger end with light brown: in the second clutch the eggs were rather greener and the markings very faint, being evenly and closely distributed over the whole shell. Average size 0.69×0.56 in.

11. *ALSEONAX LATIROSTRIS* (Raffles). Brown Flycatcher.

Muscicapa latirostris Seebohm, B. Jap. Emp. p. 62.

Jap.: Kosamebitaki.

This bird is common in the woods below Chuzenji, as it is also near Subashiri. Its nest is a very neat, lichen-covered cup and is usually placed on the horizontal branch of an evergreen tree close against the bole. The male possesses a pleasing, though somewhat insignificant song. I took several clutches about the third and fourth weeks of May. The eggs are pale greyish green, very faintly clouded or washed, usually round the obtuse end, with light red. Average measurements 0.66×0.5 in.

12. *TERPSIPHONE PRINCEPS* (Temm.). Japanese Paradise-Flycatcher.

Terpsiphone princeps Seebohm, B. Jap. Emp. p. 63.

Jap. : Sanko-cho.

This bird is by no means rare in the forests round Fujiyama, where it is more often heard than seen, owing to its love of seclusion. It seems to have no real song, but utters a few unmusical notes. Nidification was apparently just commencing when I left Subashiri on June 6th, for the only nest found was taken two days before my departure, and contained an incomplete clutch of three eggs. This nest was slung under the fork of a small branch in the centre of a wood and was tidily built of moss, roots, and a few grass-stalks. The eggs are white with a salmon-pink tinge, and are finely speckled round the larger end with grey underlying and dark reddish-brown overlying spots. Size 0.82×0.61 in.

13. *HYPSSIPETES AMAUROTIS* (Temm.). Brown-eared Bulbul.

Hypsipetes amaurotis Seebohm, B. Jap. Emp. p. 64.

Jap. : Hiyodori.

This Bulbul was fairly common in most of the parts of Hondo that I visited. It is a restless noisy species, and two or three individuals are usually encountered together, calling to one another with a loud squealing cry. This is usually uttered during flight, but the bird will sometimes continue its vociferations from the top of a tree.

14. *ZOSTEROPS JAPONICA* Temm. & Schl. Japanese White-eye.

Zosterops japonica Seebohm, B. Jap. Emp. p. 68.

Jap. : Mejiro.

I found several nests of this species near Subashiri, where it is common. It is everywhere a popular cage-bird, and great numbers are kept by the Japanese for the sake of its pleasing song. In captivity the chestnut colouring on the flanks is said to become considerably darker owing to artificial feeding, and my observations go to corroborate this fact. Such being the case, separatists should be very cautious and not rely too much on this variable character when dividing the geographical races in this genus. Jouy's assumption (afterwards copied by Seebohm)

that the nest of this species is placed on the ground is, of course, absolutely unfounded. As a matter of fact, I found one situated as high as eleven feet above the ground, but it is usually situated at not more than four or five feet. The nest is built under the fork of a small branch, which is woven into the structure. The eggs are white and measure 0.65×0.5 in.

In a cage at Osaka I saw a beautiful variety of this bird: the distribution of the normal colours was faintly visible, being indicated on the upper parts by a pale yellowish-white tint.

15. *PHYLLOSCOPUS CORONATUS* (Temm. & Schl.). Temminck's Willow-Warbler.

Phylloscopus coronatus Seebohm, B. Jap. Emp. p. 68; Ingram, Bull. B. O. C. vol. xxi. p. 18.

Jap. : Sendai-mushikui.

(Egg, Pl. IV. fig. 1.)

About the middle of May the song of this Warbler could be heard throughout the Subashiri woods, but towards the end of the month the birds apparently thinned out or became more silent. The song consists of two or three pleasing notes followed by a somewhat harsh sound, the latter being like that of a European Greenfinch: the whole might perhaps be expressed by the syllables *tsu-eet*, *tsu-eet—tzzaa*. Sometimes these notes are changed to a soft *cheroo*, *cheroo*, but the former song is that most commonly indulged in. On May 28th a Crowned Willow-Warbler was noticed carrying leaves, and its domed nest was subsequently found concealed among some dead branches on the side of a bank. This was under the shade of an avenue of tall cryptomerias leading to the Shinto Shrine at Subashiri, and was immediately in front, and within a few yards, of the priest's house. The first egg was deposited on June 2nd, after which one was laid every morning until I left on the 6th. While identifying the female I found that she was usually on the nest some time between the hours of 5.30 A.M. and 7 A.M. Another nest was shown to me, but it had unfortunately met with some

accident and only contained a broken egg-shell. It was also placed on a bank and under trees, but in this case the only concealment was the surrounding herbage. They were very similar in construction, being chiefly composed of dead and half-rotten leaves with a few grass-blades intermixed and lined with the seed-stalks of moss. The eggs are pure white without much gloss, but before being blown the yolk inside gives them a translucent yellowish-pink appearance. They measure 0.65×0.5 in.

16. PHYLLOSCOPUS XANTHODRYAS Swinhoe. Swinhoe's Willow-Warbler.

Phylloscopus xanthodryas Seebohm, B. Jap. Emp. p. 70.

Jap.: Maboso.

This bird inhabits a higher part of the forest than *P. coronatus*, although, when I first arrived at Subashiri, small numbers were to be found in the same districts. It was at an elevation of between four and five thousand feet on the sides of Fuji that this bird became really common, and I met with it in great abundance, but I was unfortunately too early in the season to find any eggs. It is said to breed about the middle or end of June. Like many of its allies it is a persistent songster, and will sing all the time it is working its way through the woods, so that its movements may be easily followed by the ear. The song is vaguely suggestive of that of a Chiffchaff, but is more of a continuous trill, sounding like *chi-chirra, chi-chirra, chi-chirra*.

17. ACROCEPHALUS ORIENTALIS (Temm. & Schl.). Eastern Great Reed-Warbler.

Acrocephalus orientalis Seebohm, B. Jap. Emp. p. 71.

Jap.: Oyoshikiri.

This species is abundant in many of the reed-beds, where its habits and song seem almost identical with those of its European representative *A. arundinaceus*. I visited a swampy part of Lake Yamanaka, which is rather more than two thousand feet above the sea-level, and there found it a common bird; but the nests were only being built on June 3rd, and I discovered no eggs.

18. *ACROCEPHALUS BISTRIGICEPS* Swinhoe. Schrenck's Reed-Warbler.

Acrocephalus bistrigiceps Seebohm, B. Jap. Emp. p. 71.

Jap.: Koyoshikiri.

While Schrenck's Reed-Warbler was missing from the eastern slope of Fuji, it was remarkably common a little further round on the north-eastern side, from Lake Yamanaka upwards for about fifteen hundred feet. Although found by the lake-side, the presence of water seemed by no means essential to its welfare, for the bird was equally plentiful amongst the rough grass and scrub three or four miles up the mountain and in places where there was no water of any kind. At times the whole country-side resounded with its song, which bore a distinct resemblance to that of certain other members of the genus. It was obviously imitative. Part of a Skylark's melody would be coupled with the notes of a Grey-headed Bunting, while these, in turn, would be followed by a little of the Stonechat's song—all the birds mimicked being common in the same neighbourhood. When singing the male will climb to the point of an upstanding twig or plant-stalk, and there display itself as conspicuously as its sober plumage will allow.

This Warbler had not commenced to breed by June 4th.

19. *UROSPHENA SQUAMICEPS* (Swinhoe). Short-tailed Bush-Warbler.

Cettia squamiceps Seebohm, B. Jap. Emp. p. 74.

Jap.: Kawari-uguisu.

(Egg, Pl. IV. fig. 10.)

This bird is apparently of very local distribution, for I only found it within a limited area on Fujiyama. It is essentially a sylvan species, and never wanders far from the depth of the woods, where, owing to its habit of keeping to the undergrowth, it is extremely difficult to observe. The song is a shrill impulsive *zi. zi, zi, zi*, uttered in a high key. On May 23rd a nest containing seven eggs, slightly incubated, was discovered in a partial clearing of the forest, hidden under the roots of an old upturned tree-stump. It was an open

nest and built principally of moss, lined with small fern-roots and the orange-coloured "flowering-stalks" of another kind of moss. This latter material is utilised in nest-building by several species in Japan, but more especially so by *Cyanoptila bella*, under which heading I have referred to it at greater length.

The eggs are closely speckled and blurred with rich brownish pink or salmon-brown, which almost obscures the lilac-grey underlying marks and the white ground-colour. They measure 0.68 x 0.5 in.

20. *CETTIA CANTANS* (Temm. & Schl.). Japanese Bush-Warbler.

Cettia cantans Seeböhm, B. Jap. Emp. p. 74.

Jap. : Uguisu.

The Japanese Bush-Warbler, the "Nightingale" of the Japanese themselves, is perhaps one of the best-known birds in the Empire, owing to its loud musical song, which, in the spring and early summer, is a very common sound in all the wooded districts. For the size of the bird its voice is remarkably powerful and penetrating, and the sound of it reaches to a very great distance. The true song is rather monotonous, resembling the first few notes of that uttered by the European Nightingale (*Daulias luscinia*), but from this it will suddenly change and break out into a shrill eacinnation or chatter, a sound which, I believe, is also used by the bird as a cry of alarm.

The favourite haunts of this species are on the wooded slopes of the foot-hills, frequently at some distance from water.

Between May 20th and June 6th I discovered six nests of this bird, but only two of these contained eggs, the others having young of various ages. In both cases the eggs were quite fresh, and presumably the birds were laying for a second time. The nests (with one exception) were all placed in low thickets of dwarf bamboo (*Bambusa senanensis*), about two or three feet from the ground. In form they were domed, with a somewhat large side-entrance: they were composed externally of big coarse blades of grass and dried leaves of the bamboo, being lined with finer material and hairs.

After having carefully observed this bird in many parts of Japan, I cannot persuade myself of the existence of the lesser species *C. cantillans* (T. & S.). Its sole claim to separation lies in its slightly smaller measurements, but as the two birds admittedly live side by side, with exactly similar habits, this is, I think, insufficient distinction. The theory that *C. cantillans* is the female of the other may be correct, but it is more probable that this species is very variable with regard to size.

As a cage-bird the Bush-Warbler is greatly prized by the Japanese, and individuals possessing a specially fine voice (which is often cultivated in captivity) command very high prices.

The eggs in my collection are of a uniform reddish-chocolate or reddish-brown colour, considerably darker than those of *C. cetti*, with which they have been compared. In texture the shell is also rather more glossy. Dimensions 0.71 × 0.55 in.

21. *PARUS BOREALIS RESTRICTUS* Hellm. Japanese Marsh-Tit.

Parus palustris japonicus Seebohm, B. Jap. Emp. p. 81.

Parus borealis restrictus Hellm. Orn. Jahrb. 1900, p. 215.

Parus atricapillus restrictus Hart. Vög. pal. Fauna, 1905, p. 380.

Jap.: Higara.

By no means rare in certain parts of the Fujiyama forests, being commonly encountered among the old coniferous trees, which are also much favoured by other Titmice.

22. *PARUS ATER INSULARIS* Hellm. Japanese Cole-Tit.

Parus ater pekinensis Seebohm, B. Jap. Emp. p. 82.

Parus ater insularis Hellm. Orn. Jahrb. 1902, p. 36.

Jap.: Kogara.

Tolerably common, and found in the same localities as the preceding species. The song of this bird is very like that of its European representative; indeed, if differing at all it does so only in the intonation of the notes. On May 29th I found a nest containing eight eggs placed in a small hole of a

spruce about ten feet from the ground. This was composed of a little moss, mixed with large quantities of hare's fur. The birds must have been at some pains to gather the latter material, for hares seemed to be very scarce in the district. The eggs are not to be distinguished from those of the typical *P. ater*.

23. PARUS MINOR Temm. & Schl. Japanese Great Tit.

Parus atriceps minor Seebohm, B. Jap. Emp. p. 83.

Jap.: Shiju-kara.

This was the commonest Titmouse found near Subashiri, being widely distributed throughout the wooded districts. Two nests which I discovered on May 29th and June 4th contained young, but I was fortunate enough to find an infertile egg in the first. Both these nests were placed in the hole of a rotten tree-stump, but I understand that the bird is also fond of building in the crevice of a stone wall. The above-mentioned egg resembles typical examples of *P. major*, but measures only 0.63×0.48 in.

24. PARUS VARIUS Temm. & Schl. Varied Tit.

Parus varius Seebohm, B. Jap. Emp. p. 85; Ingram, Bull. B. O. C. vol. xxi. p. 18.

Jap.: Yama-gara.

(Egg, Pl. IV. fig. 7.)

Near Subashiri this species is somewhat locally distributed, although fairly plentiful in some parts of the forest, particularly in the higher districts; it is also common near Nikko, where it is a very favourite cage-bird. On June 2nd, at an altitude of about five thousand feet, I found a nest of this Tit in the hollow centre of a newly-felled tree; as this hole ran perpendicularly down into the stump, without any outlet, it is difficult to understand why it had not been filled with water during the heavy rains that had recently fallen. The female sat so closely that she allowed me to catch her on the nest, even after we had been working with an axe for some time to enlarge the aperture. The eggs are pure white, somewhat boldly spotted about the larger end with reddish brown, and, in one or two instances, with distinctly paler and

lilac underlying marks. To find two colours in the eggs of a Titmouse is, I believe, unusual. The eggs measure 0.7×0.55 in.

25. *ACREDULA TRIVIRGATA* Temm. Japanese Long-tailed Tit.

Acredula trivirgata Seebohm, B. Jap. Emp. p. 87.

Jap. : Enaga.

A goodly number of these birds were encountered on the slopes of Fuji, where, owing to their habit of moving about in company and incessantly calling to one another, it was an easy species to observe. In many cases the young had flown by the end of May, and on the 26th I found an old nest in a bush about four feet from the ground, while two days later I was shewn a second containing young and a single addled egg. This last nest was placed in an isolated pine growing on a piece of waste land about thirty or forty yards away from a wood.

The note of this species is different from that of *A. rosea* and may easily be distinguished. The egg in my collection measures $.55 \times .45$ in., and is distinctly marked with small light red spots.

26. *TROGLODYTES FUMIGATUS* Temm. Japanese Wren.

Troglodytes fumigatus Seebohm, B. Jap. Emp. p. 89.

Anorthura fumigata Sharpe, Hand-list of B. vol. iv. p. 92.

Jap. : Misosazai.

This Wren was met with in several parts of Japan. In song and habits it closely resembles *T. parvulus*. The only nest found contained young on May 18th and was placed inside an old deserted shanty. Exteriorly it was composed entirely of moss.

27. *CERTHIA FAMILIARIS JAPONICA* Hartert. Japanese Tree-Creeper.

Certhia familiaris Seebohm, B. Jap. Emp. p. 91.

Certhia familiaris japonica Hart. Nov. Zool. vol. iv. p. 138.

Jap. : Kibashiri.

A few pairs of Creepers were seen among the big forest-growth on Fujiyama at 5000 ft. The habits of these birds seemed exactly similar to those of the European race.

28. *SITTA EUROPEA AMURENSIS* Swinhoe. Daurian Nuthatch.

Sitta caesia amurensis Seebohm, B. Jap. Emp. p. 92.

Jap. : Ki-mawari.

In the Chuzenji woods I several times heard the notes of a Nuthatch, which doubtless belonged to this species.

29. *CORVUS MACRORHYNCHUS JAPONENSIS* (Bp.). Jungle-Crow.

Corvus macrorhynchus japonensis Seebohm, B. Jap. Emp. p. 94.

Jap. : Hashibuto-garasu.

This Crow is found throughout the length and breadth of Japan, being, if anything, more at home in the towns and cities than in the country districts. It is particularly common in Tokio, where it nests early in the spring in the parks and grounds of the Imperial Palace.

30. *GARRULUS JAPONICUS* Temm. & Schl. Japanese Jay.

Garrulus japonicus Seebohm, B. Jap. Emp. p. 101.

Jap. : Kakesu.

Fairly plentiful on the wooded slopes of Fuji, where I took two clutches of eggs, one on May 21st and another on June 2nd, the nest in the latter case being at an elevation of five thousand feet. In its shy habits and harsh cry this bird is very like the European species. When pulling the first nest to pieces I found that the foundation contained a layer or platform of clay about an inch in thickness, but otherwise it was composed almost exclusively of roots. The second had the exterior adorned with a kind of grey moss-like plant or lichen, taken from the festoons that covered the branches of many of the surrounding trees. This parasitic growth is, I believe, *Lycopodium sieboldi*, and it seems to become very prevalent at altitudes of over four thousand feet. My eggs are indistinguishable from those of *G. glandarius*, and measure 1.25 x 0.9 in.

31. *LANIUS SUPERCILIOSUS* Latham. Japanese Red-tailed Shrike.

Lanius superciliosus Seebohm, B. Jap. Emp. p. 104.

Jap. : Akamozu.

Plentiful round Fujiyama, where it frequents the outskirts of the forest. I took two nests (June 4th and 5th), but did not have the opportunity of satisfactorily identifying the birds, though the eggs in both cases agree perfectly with those attributed to this species. I discovered the second nest by seeing the male (which, at a distance, certainly looked more like *L. bucephalus*) catch a winged insect and disappear with it into the wood. On hurrying to the spot, he flew out of a tangled bush, where I found the female covering a clutch of five eggs. The lining of this nest contained a little of the hair-like growth found on the boughs of trees.

32. *LANIUS BUCEPHALUS* Temm. & Schl. Bull-headed Shrike.

Lanius bucephalus Seebohm, B. Jap. Emp. p. 106.

Jap. : Mozu.

This bird is common in many districts. It apparently commences nidification very early in the season, for I saw fully fledged nestlings in a bird-shop at Osaka on April 23rd. This and the preceding species both resent any intrusion by uttering the harsh grating cries typical of many Shrikes.

33. *PERICROCOTUS CINEREUS* Lafres. Ashy Minivet.

Pericrocotus cinereus Seebohm, B. Jap. Emp. p. 106 ; Ingram, Bull. B. O. C. xxi. p. 18.

Jap. : Sanshokui.

I met with this species commonly near Nara, Nikko, and round Fujiyama, but it is not easily observed, owing to its habit of always keeping to the topmost branches of very high trees. On the other hand, its presence will often be revealed by its clear trilling note, which is continuously uttered by the birds as they move restlessly about in small parties, flying from one tree-top to another. Even during the nesting-season individuals seem to be constantly communicating with each other by means of this shrill twittering cry,

and I have actually heard a bird answer its mate while sitting on the nest.

The Ashy Minivet builds amongst the thin uppermost branches of some tall tree, and its nest is therefore extremely difficult to locate and often quite inaccessible. It is beautifully made, being a small and very compact cup with the exterior closely covered with flakes of lichen. The framework is made of fibrous strips of wood, a little moss, and a few grass-bents and is lined with black rootlets; the whole structure appears to be firmly knit together by means of cobwebs. The cup, measuring less than three inches across, is so small in proportion to the bird (whose total length is $7\frac{3}{4}$ inches) that the tail of the incubating parent may be seen projecting a considerable way over the nest.

When my collector commenced to climb the tree containing the nest both birds became extremely excited, the male, in particular, making elaborate feints to lure us away. Squealing loudly he came fluttering and tumbling downwards, as though painfully wounded. Then, having approached within two or three yards (which was as near as he dared), he kept steadily flapping his wings and fanning his tail in a very strange manner, this being evidently done to attract our attention. If possible the birds appeared even more distressed when a dog came upon the scene, and the animal was made an object of frantic demonstrations.

The first nest, containing five slightly incubated eggs, was found on May 25th, and a second was discovered a few days later, but was too high up to be reached.

The brooding-bird is fed on the nest by its mate.

The eggs are stone-white, boldly marked with hair-brown over underlying blotches of lavender-grey. Average size 0.81×0.66 in.

34. *SPODIOPSAR CINERACEUS* (Temm.). Grey Starling.

Sturnus cineraceus Sceböhm, B. Jap. Emp. p. 107.

Jap. : Muku-dori.

This bird is fairly common in the city of Tokio, where it was apparently breeding at the time of my visit. I did not meet with it in the mountain districts.

35. MOTACILLA ALBA GRANDIS (Sharpe). Japanese Pied Wagtail.

Motacilla japonica Seebohm, B. Jap. Emp. p. 112.

Motacilla alba grandis Hartert, Vög. pal. Fauna, p. 309.

On most of the mountain rivers this bird is very common ; I found it especially so on the rapids of the Katsuragawa in the Kioto District, where some of the young had already left the nest by April 29th. All, however, had not flown, and on May 3rd I found a nest containing six fledgings. This was placed in a tuft of water-grass close to the weir of Arashiyama. Ten days later I found another nest, also with young, built under a large boulder in the river-bed at Nikko. By these dates it may be seen that the bird is a very early breeder, and it doubtless rears two broods in the season. This species sings more freely than the European Pied Wagtails.

36. MOTACILLA BOARULA MELANOPE (Pall.). Eastern Grey Wagtail.

Motacilla boarula melanope Seebohm, B. Jap. Emp. p. 114.

Jap. : Ki-sekirei.

The Japanese representative of the Grey Wagtail somewhat differs in its habits from the European bird. Instead of being found in the wilder parts of the torrential streams (where it is replaced by the Japanese Pied Wagtail), it shews a marked preference for the neighbourhood of villages, being commonest in the mountain districts. Here the males may often be seen singing composedly from the house-tops and taking no heed of the noise and bustle of the streets below. I believe a thatched roof is the usual site selected by this species for its nest, although I did not personally find one in such a position ; the first which I discovered (May 20th) contained young and was placed in a small stack. The second was only in course of construction, but I was surprised to find it being built in the branches of a clipped yew growing by the main street of Subashiri. This Wagtail is particularly plentiful in the vicinity of Nikko.

37. *ANTHUS MACULATUS* Hodgs. Eastern Tree-Pipit.

Anthus maculatus Seebohm, B. Jap. Emp. p. 115.

Jap. : Ki-hibari.

Tolerably abundant round Fuji, where I found it nesting by the end of May. It is distinctly arboreal, and in its habits greatly resembles the true Tree-Pipit. Like that bird it possesses an excellent song, which it utters both during flight and from the point of a tree. Its vertical range during the breeding-season extends to an altitude of at least 5000 ft. When returning to its nest the bird does so very stealthily, approaching it from some distance along the ground. All the Japanese eggs I have seen of this species vary very little *inter se*, but differ from those collected on the continent; these latter might be described as more nearly approaching the warm-coloured, distinctly spotted varieties of *A. arboreus*. The thirteen eggs in my possession (from three clutches) average 0.81×0.62 in. On a ground-colour of very pale bluish white, they are profusely speckled like those of *A. pratensis*, but with grey underlying and brown overlying marks; these are rather more dense about the larger end and form an indistinct zone.

38. *ALAUDA ARVENSIS JAPONICA* (Temm. & Schl.). Japanese Skylark.

Alauda arvensis japonica Seebohm, B. Jap. Emp. p. 118.

Jap. : Hibari.

Common in all suitable localities, and its habits seem to be exactly similar to those of the European Skylark. Two or more broods are undoubtedly reared in the year, as I found alternately young and eggs throughout my stay in Japan. The eggs in my collection average 0.85×0.65 , and are greyer than typical examples of *A. arvensis*.

39. *LIGURINUS KAWARAHIBA MINOR* (Temm. & Schl.). Japanese Greenfinch.

Fringilla kawarahiba Seebohm, B. Jap. Emp. p. 127.

Jap. : Kawarahiwa.

This Greenfinch was common round Subashiri, where it was nesting in the tall cryptomerias. One nest, placed about

twenty feet from the ground, contained three fresh eggs on May 27th, while fully fledged young were discovered two days later, facts which seem to indicate that the species rears at least two broods in the season. Its eggs resemble those of *Ligurinus chloris* (Linn.), and measure about 0.79×0.55 in.

The Japanese Hawfinch (*Coccothraustes personatus*) was not an uncommon cage-bird, but I did not encounter it in a wild state: the Common Hawfinch (*C. vulgaris*) was likewise only seen in cages.

40. PYRRHULA GRISEIVENTRIS Lafr. Oriental Bullfinch.

Pyrrhula griseiventris Seebohm, B. Jap. Emp. p. 129.

Jap.: USO.

Although so common as a cage-bird I found this species by no means plentiful in any of the districts that I visited. I once or twice heard its note, which is a pipe not unlike that of *P. europæa* Vicill., near the village of Subashiri, but met with it more freely on the slopes of Fuji at an altitude of about five thousand feet.

41. PASSER MONTANUS Linn. Tree-Sparrow.

Passer montanus Seebohm, B. Jap. Emp. p. 130.

Jap.: SUZUME.

Wherever there are towns and villages the Tree-Sparrow may be found abundantly in all parts of the Empire, nesting principally under the tiles of the living-houses and more rarely in the holes of trees. As is the case throughout the East, the Japanese bird is much more domesticated than the European *P. montanus* and is inseparably associated with human dwellings.

42. EMBERIZA CIOPSIS Bp. Japanese Meadow-Bunting.

Emberiza ciopsis Seebohm, B. Jap. Emp. p. 131.

Jap.: HOJIRO.

This Bunting is widely distributed and very common in most of the Japanese islands. It has a moderately good, if somewhat short, song, which it usually utters from the top or jutting branch of a tree. Compared with its European

ally *E. cia*, it is much more of a sylvan species, being usually encountered on the wooded slopes of the mountains. The nest resembles that of *E. citrinella*, and is frequently placed in a young spruce or small bush within a foot of the ground. The eggs are pale bluish white with a very faint zone of violet-grey specks, over which there are clear spots and scrawls of purplish black. Size 0.8×0.61 in.

In a bird-shop at Kobe I saw a perfect specimen of an albino Bunting, which I feel convinced belonged to this species.

43. *EMBERIZA YESSOENSIS* Swh. Japanese Reed-Bunting.
Emberiza yessoensis Seeböhm, B. Jap. Emp. p. 132;
Ingram, Bull. B. O. C. vol. xxi. p. 18.
Jap. : Nabe-kaburi.

(Eggs, Pl. IV. figs. 8, 9.)

This species seems to be very local, for I only found it inhabiting a small area, viz., the rough grass-lands above Lake Yamanaka on the north-east slope of Fuji. Here it was fairly common, and when I visited the place early in June the birds had all paired and were clearly shewing signs of nesting. A whole day spent in futile search convinced me that I was premature in my efforts to find eggs, and that it would be at least a fortnight or three weeks before any were laid. With this knowledge I instructed the collector to return at a later date and send me a nest and eggs together with the female. This he was fortunately able to do, taking them on June 19th. Mr. Owston, on learning of this success, immediately paid a visit to the locality and was lucky enough to take two nests himself, and I am indebted to that gentleman for some interesting details. He informs me that these nests were within five or six inches of the ground and placed between the stems of small shrubs, the base of one, it seems, actually resting on the ground itself and being built up to the height mentioned. Referring to the habits of this Bunting he says "the birds appeared to be unwilling to stay away from their nests very long, probably owing to the tremendous downfall of rain which continued all the time we were on the grounds"; he further adds that the females shewed much concern when their eggs were approached.

I found this species very silent, and a "chipping" note, common to many Buntings, was the only sound I heard it utter. The males in summer-plumage, with beautiful black heads, could often be seen sitting boldly on some conspicuous twig, but as soon as they were disturbed they dropped down and were lost to sight among the thick grass. The females were at all times shy, and spent much of their time on the ground. The nest received is small in size. It is composed of dead grass-blades and stalks and is lined first with fine rootlets and then with horse-hair. For a Bunting the eggs are unusually round in shape, measuring 0.65×0.55 in. They are dirty white in ground-colour, profusely blotched and spotted with yellowish-brown or umber-brown marks, among which are intermingled a few dark hair-lines or streaks. The eggs differ slightly; one shews the ground-colour better and has more scrawling on it than the others, being also of a warmer shade of brown.

44. *EMBERIZA FUCATA* Pall. Grey-headed Bunting.

Emberiza fucata Seeböhm, B. Jap. Emp. p. 134.

Jap. : Ho-aka.

Notwithstanding the fact that this species was common in many places round Fuji, I did not succeed in finding any nests and I therefore conclude that it is a rather late breeder. It inhabited the more open scrub-like parts of the country, where its insignificant and chirpy song could frequently be heard.

On the whole, it was not very shy and would flutter up close in front of one, only to settle again in the undergrowth a few yards away.

45. *EMBERIZA SULPHURATA* Temm. & Schl. Siebold's Bunting.

Emberiza sulphurata Seeböhm, B. Jap. Emp. p. 135.

Jap. : Nojiko.

This and the following species are to be found abundantly in the Subashiri district, and, with the exception of *Turdus chrysolaus*, I took more of their nests than of any other bird. Both of these Buntings keep very much to the woodlands,

which is an uncommon characteristic in members of the genus, the majority preferring a more or less open type of country. Siebold's Bunting possesses a very fair song, something like that of a Linnet, and on this account it is not infrequently kept in cages by the Japanese. Its nest—composed of rough grasses and lined with fern-rootlets and hair—is placed in a low bush or young spruce, from one to five feet from the ground. It apparently breeds from the middle of May onwards to the commencement of July (Jouy, Proc. U.S. Nat. Mus. 1883). The female is a close sitter.

The average measurement of the eggs is 0.7×0.56 in. As Seebohm points out (B. of Jap. Emp. p. 135), these resemble the eggs of the Garden-Warbler, but examples in my collection may be recognised by having more of the Bunting-streaks on them.

46. *EMBERIZA PERSONATA* Temm. Japanese Bunting.

Emberiza personata Seebohm, B. Jap. Emp. p. 136.

Jap. : Awoji.

If anything, this Bunting outnumbered the foregoing species and I found over a dozen nests round Subashiri, all, with a single exception, being placed on the ground. According to the Japanese collector, it is unusual to find this bird building in any other situation, and the nest I took from a bush three feet from the ground was no doubt exceptional. In habits this species seems to be closely allied to Siebold's Bunting, and its song bears a likeness to that bird's, although perhaps less varied and not so pleasing.

The eggs vary both in colour and shape. The shell is bluish white, densely blotched with lilac underlying marks and russet-brown or purplish-brown overlying marks, and with sometimes a few irregular lines of a darker shade. The lilac underlying blotches will occasionally predominate. In size they range from 0.85×0.56 to 0.71×0.58 in.

47. *HIRUNDO GUTTURALIS* (Scop.). Eastern Chimney-Swallow.

Hirundo rustica gutturalis Seebohm, B. Jap. Emp. p. 141.

Jap. : Tsubame.

On April 17th, when steaming in an easterly direction between Shanghai and Nagasaki, all through the day an intermittent stream of Swallows could be seen overtaking and passing the vessel. The weather was calm and overcast, and the birds, in small parties of half a dozen or less, were all flying close to the surface of the water and taking almost exactly the same course as the ship. In company with these were a few Wagtails (*Motacilla boarula melanope*). This observation is, I think, of some interest, as it serves to shew the migratory route taken by these birds on their vernal passage. They apparently keep to the coast of the continent until it falls sharply back to form the Yellow Sea, when they probably quit the mainland and strike across to Japan, *viâ* the Chusan Archipelago—which, of course, would be the shortest and most direct route from China. These migrants were doubtless somewhat belated, for when we reached Nagasaki I found that many Swallows had already taken up their summer-quarters.

Owing to the protection given to this species by the Japanese, it displays great confidence and seems to be very intimately associated with mankind, for it is hardly ever encountered far from a village or town. Here it may be seen nesting under the low roofs of the houses, scarcely more than a foot or two above the heads of the occupants.

The only egg I took was remarkably small, measuring 0.7×0.5 in. In coloration, however, it resembles the typical egg of *H. rustica*.

48. *PICUS MAJOR JAPONICUS* (Seebohm). Japanese Great Spotted Woodpecker.

Picus major japonicus Seebohm, B. Jap. Emp. p. 153.

Jap.: Akagara.

I met with this Woodpecker commonly in the Nikko mountains and on Fujiyama, while in both districts it seemed to keep entirely to the higher elevations. On June 2nd my attention was attracted to a nesting-hole of this species by the tell-tale clamour of the young birds. These were very advanced and I should think in a few days would have left the nest.

49. *LYNGIPICUS KISUKI* (Temm.). Japanese Pigmy Woodpecker.

Lyngipicus kisuki Seebohm, B. Jap. Emp. p. 156.

Jap.: Kogera.

Near Kioto I met with the true *I. kisuki*. Even in life it may be seen to have a much darker crown than the more northern or mountain form (*I. kisuki seebohmi*), which is not very rare in the mountains round Chuzenji or on Fujiyama. Jouy (Proc. U.S. Nat. Mus. 1883) speaks of these birds as almost invariably associated with flocks of Tits, but I cannot concur with this statement, as I never once found them in company with any of the Paridæ; if they flock with them at all it must be, I think, in the autumn or winter months, when many species are known to gather together.

These Pigmy Woodpeckers are by no means shy, and I had the opportunity of watching one for some time, as it was feeding within a few feet of me, gathering quantities of ants from the bough of a cherry-tree. Its note is a small, rasping, *cheet, cheet*.

50. *TURTUR ORIENTALIS* (Lath.). Eastern Turtle-Dove.

Turtur orientalis Seebohm, B. Jap. Emp. p. 160.

Jap.: Kiji-bato.

I did not find this bird very common; but fair numbers were observed in and about Kioto, as well as on the sides of Fujiyama, though no eggs were taken.

51. *CUCULUS CANORUS* Linn. Common Cuckoo.

Cuculus canorus Seebohm, B. Jap. Emp. p. 169.

Jap.: Kakko.

This bird did not arrive in the Subashiri district in any numbers until the last few days of May. It seemed to shew a preference for the higher parts of the forest and was very plentiful at five thousand feet, where the other Cuckoos were either very scarce or altogether absent. I could not detect that its cry differed in any way from that uttered by European examples of the species. The Japanese collector assured me that he was able to distinguish the eggs of all the four parasitic birds found in the neighbourhood; but he

admitted he had never been able to prove absolutely their identity. However, on one point he seemed tolerably certain, *i. e.* that the same species of birds are selected every year by each kind of Cuckoo, because the eggs found in the nests of certain foster-birds are always pretty much of a similar type.

52. *CUCULUS SATURATUS* Hodgs. Himalayan Cuckoo.

Cuculus intermedius Seebohm, B. Jap. Emp. p. 169.

Jap.: Tsu-tsu-dori.

This was the first species of Cuckoo to reach Fujiyama, and its cry could be heard on all sides by May 20th. Enquiries elicited the information that a few individuals had been heard at least five days earlier.

Closely as this bird resembles *C. canorus* I found that the Japanese fully appreciated the difference, but this was doubtless brought to their notice in the first place by the bird's very distinct call—a muffled *hoo, hoo, hoo*, uttered two, three, or more times in succession, preferably from the top of an exposed dead tree or an upstanding branch of the forest.

53. *CUCULUS POLIOCEPHALUS* Lath. Little Cuckoo.

Cuculus poliocephalus Seebohm, B. Jap. Emp. p. 171.

Jap.: Hototo-gisu.

Towards the end of May the inhabitants of Subashiri were vigilantly on the look-out for the arrival of this small Cuckoo, and the first bird was recorded on the 25th of that month. It appears that the country-folk in this neighbourhood have a superstitious belief that the body of this bird possesses peculiar curative properties. In consequence of this it is most eagerly sought after and for several days following its arrival the sound of shots may be frequently heard in the surrounding wood. Happily for the species it is extremely wary, like most of its allies, and not many fall victims to this foolish superstition. Wishing to procure a specimen for my collection, I offered a Japanese a comparatively high price for one, but he flatly refused it, even though I promised to return the body after having

skinned it. To be of any use it seems that the bird has to be roasted and eaten, feathers and all!! Other Cuckoos are also shot for medicinal uses, but are not so highly prized as this species.

The eggs of the Little Cuckoo are said to be found in the nests of *Cettia cantans*, and to be of a uniform chocolate-brown colour.

54. *HIEROCOCCYX FUGAX* (Horsfield). Amoor Cuckoo.

Hierococcyx hyperythrus Seebohm, B. Jap. Emp. p. 171.

Jap.: Ju-ichi.

As far as I could ascertain, this bird reached the slopes of Fujiyama about May 24th, from which date it became tolerably common. The Japanese name *Ju-ichi* is supposed to resemble the bird's call.

55. *ALCEDO ISPIDA BENGALENSIS* (Gm.). Indian Common Kingfisher.

Alcedo ispida bengalensis Seebohm, B. Jap. Emp. p. 175.

Jap.: Kawa-semi.

On May 23rd two of these birds were observed on Shoji Lake, where they were probably breeding.

56. *CYPSELUS PACIFICUS* (Lath.). Siberian Swift.

Cypselus pacificus, Seebohm, B. Jap. Emp. p. 177.

Jap.: Nairi-tsubame.

The first time I observed this Swift was near Kioto on May 4th, when a single example passed overhead; the only other specimens seen in Japan were two or three flying across Lake Kawaguchi on the 23rd. In Vladivostock, where the species was remarkably common, it struck me as having very similar habits to *C. apus*, but it is a much more silent bird and is more sparing of its scream-like cry.

The Japanese collector told me that the larger Needle-tailed Swift (*Chatura caudacuta*) breeds every year in the precipitous parts of Fuji, late in the month of July. Mr. Owston also informed me that a colony nests by the waterfall near Chuzenji, where the birds may be seen entering the crevices formed by the strata. When I visited the place, during the second week in May, none of these

interesting birds were to be seen, but it was doubtless then too early in the year for them

57. *CAPRIMULGUS JOTAKA* Temm. & Schl. Japanese Nightjar.

Caprimulgus jotaka Seebohm, B. Jap. Emp. p. 178.

Jap. : Yotaka.

This bird was common round Subashiri, and from twilight onwards through the night its peculiar notes could frequently be heard. This cry has been likened, with some truth, to the sound produced by a pebble being rapped smartly on a sheet of ice—a sharp, resonant *chook, chook, chook*, uttered several times in quick succession. Three pairs of eggs were taken in the neighbourhood on May 26th and June 3rd and 4th respectively. The first two eggs (taken by myself) were deposited on a small bare patch of black ground, under the shelter of some pine-trees. Owing to the light colour of these eggs, when uncovered, they shewed very distinctly against the dark background and consequently displayed a dangerous lack of protective coloration.

When returning to the eggs the bird approaches from a distance and, with gliding flight, goes straight and unhesitatingly to the spot. I observed that the female while incubating kept her large eyes nearly closed. Did she object to the bright light of the sun or was it done for the sake of better concealment? Of course, in nature, it must be remembered eyes are often the first means of betraying the presence of an otherwise inconspicuous creature and by screening these bright parts assimilation would be greatly enhanced.

The eggs resemble light varieties of those of *C. europæus*. Average size 1·28 × 0·89 in.

58. *ASIO OTUS* (Linn.). Long-eared Owl.

Strix otus Seebohm, B. Jap. Emp. p. 186.

Jap. : 'Tora-fu-dzuku.

When at Subashiri two white eggs, undoubtedly belonging to this species, were brought to me on May 15th. Measuring 1·6 × 1·3 in., they agree perfectly with European examples.

59. *MILVUS ATER MELANOTIS* (T. & S.). Black-eared Kite.

Milvus ater melanotis Seebohm, B. Jap. Emp. p. 197.

Jap.: Tombi.

This scavenger is remarkably plentiful in many parts of the Empire and particularly about the larger towns and seaports. In the harbours numbers may be seen circling over the shipping, intent upon gathering any refuse that may fall into the water. At Tsuruga I once counted as many as thirty congregated together and sitting listlessly upon a small strip of beach. These birds had doubtless just been gorging themselves, which would explain their extreme lethargy. In the mountain districts this Kite becomes less common and in some places it is rarely seen. As it is an early breeder, I was too late to procure any eggs.

60. *NYCTICORAX NYCTICORAX* (Linn.). Night-Heron.

Nycticorax nycticorax Seebohm, B. Jap. Emp. p. 222.

Jap.: Seguro-goi.

On several occasions during May I saw isolated examples of this species, principally in the neighbourhood of Kioto and Lake Biwa.

61. *ARDETTA SINENSIS* (Gm.). Oriental Little Bittern.

Botaurus sinensis Seebohm, B. Jap. Emp. p. 227.

Jap.: Yoshigoi.

Met with commonly in the reed-beds of Suzukawa and near Lake Yamanaka.

62. *LARUS CRASSIROSTRIS* Vieill. Black-tailed Gull.

Larus crassirostris Seebohm, B. Jap. Emp. p. 293.

Jap.: Umineko.

I observed a few while voyaging between Nagasaki and Yokohama.

63. *LARUS RIDIBUNDUS* Linn. Black-headed Gull.

Larus ridibundus Seebohm, B. Jap. Emp. p. 295.

Jap.: Yuri-kamome.

Seen sparingly on the Inland Sea and elsewhere in Japanese waters.

64. *ÆGIALITIS DUBIA* (Scop.). Little Ringed Plover.

Charadrius minor Seebohm, B. Jap. Emp. p. 306.

Ægialitis curonica Dresser, Man. Pal. B. p. 740.

Jap.: Chidori.

Several pairs of this species were inhabiting the beach at Suzukawa along with the Kentish Plovers, and were also undoubtedly nesting by June 1st. They were obviously masters of the latter, for whenever any of the Kentish Plovers flew over their ground they would be sure to set upon them and drive them away.

65. *ÆGIALITIS PLACIDA* (Gray). Hodgson's Ringed Plover.

Charadrius placidus Seebohm, B. Jap. Emp. p. 307.

Jap.: Ikaru-chidori.

I first met with this species on the Katsuragawa, near Kioto, about thirty miles inland. This was on May 3rd, and the birds were then shewing unmistakable signs that they were about to commence nidification, but several hours' watching convinced me that the eggs had not yet been deposited. The male was frequently courting the female, and during the process was making repeated excursions into the air, flying in a peculiar way and emitting a kind of love-cry, the whole performance being very like that of *Ægialitis dubia* when similarly occupied. The next time I met with Hodgson's Plover was on June 8th, at Gifu, when I found young on the shingle of the River Nagara, also about twenty-five miles from the coast. As this species was absent from the beach at Suzukawa, where *Ægialitis dubia* and *Æ. alexandrina* were both common, and where I fully expected to find it, it is only reasonable to presume that, during the breeding-season at any rate, it is much more of an inland species than either of those birds.

66. *ÆGIALITIS ALEXANDRINA* (Linn.). Kentish Plover.

Charadrius cantianus Seebohm, B. Jap. Emp. p. 309.

Ægialitis cantianus Dresser, Man. Pal. B. p. 737.

Ægialitis alexandrina Sharpe, Hand-l. B. i. p. 154.

Jap.: Shiro-chidori.

The only district I visited in which there was a locality adapted to the requirements of this species was Suzukawa, on the Bay of Suruga. Here the Kentish Plover was to be found quite commonly along the great stretch of beach known as Tagono-ura, and I believe it is plentiful in many parts of Japan. Although I devoted the whole morning of June 1st in searching for eggs, I did not succeed in finding more than one, and this apparently had only just been laid. It was placed in a shallow "scrape," round which was a piece of old rope, half buried in the sand. This egg is indistinguishable from European examples.

67. *HETERACTITIS BREVIPES* (V.). Grey-rumped Sandpiper.

Totanus incanus brevipes Seebohm, B. Jap. Emp. p. 323.

Heteractitis brevipes Sharpe, Hand-l. B. i. p. 161.

On the stony shore of Lake Kawaguchi I saw two birds on May 23rd which I identified as belonging to this species; these were the only examples observed during my visit to Japan. The birds in question betrayed no signs of nesting, and I believe they were merely wanderers.

68. *TRINGOIDES HYPOLEUCUS* (Linn.). Common Sandpiper.

Totanus hypoleucus Seebohm, B. Jap. Emp. p. 326.

Tringoides hypoleucus Sharpe, Hand-l. B. i. p. 161.

The Common Sandpiper is found on the banks of many of the mountain-streams, and is by no means rare.

69. *GALLINAGO AUSTRALIS* (Lath.). Australian Snipe.

Scolopax australis Seebohm, B. Jap. Emp. p. 342; Ingram, Bull. B. O. C. vol. xxi. p. 18.

Jap. : Ojishigi.

(Egg, Pl. IV. fig. 4.)

This Snipe was tolerably plentiful on the open grassy slopes of Fujiyama, where I was fortunately able to observe its breeding-habits. In such localities the birds' presence could not very well be overlooked, owing to the very remarkable sounds produced by them during their aerial evolutions, which in some respects were analogous to those indulged in

by other members of the genus. About the middle of May (and doubtless from an earlier date) these were being performed throughout the greater part of the day, and it was unusual if one could not observe two or three birds overhead at the same time. Like most avine sounds, the peculiar noise made by this species is almost impossible to be described on paper.

As this Snipe quarters the sky in wide sweeps, it gives utterance to a very curious rasping sound, which is increased in volume and considerably changed as the bird suddenly dives downward preparatory to "drumming." The first of these discordant cries is a harsh, grating *khha, khha, khha*, and is being constantly repeated during the roundabout flight; but when the bird is about to make its downward swoop this is altered to a still stranger utterance—a curious *kee-ooow, kee-ooow*, a sound which I can only liken to the sucking noise sometimes produced by water passing through the narrow waste-pipe of a bath.

The "drumming" of this species does not differ materially from that of *G. gallinago*, but the "swishing" sound is perhaps louder, and on the whole it is less like the bleating of an animal. I believe that both sexes take part in the performance.

Owing to a mistake, the only clutch of eggs in my collection (with the bird shot at the nest) was brought to me on May 19th, and I was deprived of the pleasure of actually taking it myself, although the site of the nest was subsequently pointed out to me. But later on I was fortunate enough to find young birds on two separate occasions. Taking into consideration the habits of its allies, the breeding-ground selected by this Snipe is very remarkable. For instance, I found newly-hatched and almost helpless young on the perfectly dry mountain-side, at least a mile and a half from the nearest water, which was in the form of a torrential stream, and apparently never visited by these birds. The ground in question, being composed largely of porous cinders and ashes (deposited during the comparatively recent volcanic disturbances), dries up with astonishing

rapidity even after a heavy downpour of rain. It is therefore very difficult to understand how these Waders obtain their nourishment, the nearest marsh-land or soft ground being many miles distant.

For a usually shy species, the parents display much concern when their progeny are in danger. In one case, on June 6th, while I was handling a young bird three-parts grown, the female remained fluttering in the grass within a few paces of me, feigning disablement, and uttering harsh cries of distress, and seemingly quite regardless of her own safety. I fancy this Snipe will remove its young if they have been disturbed in any way, like a Woodcock, and the Japanese collector declared that he had proved this to be the case. Certainly the two apparently helpless young birds that I found myself on May 26th disappeared in a very mysterious manner. After having carefully examined them, I turned my attention for a short time to another nest. Returning to the spot five or ten minutes later, I failed to find either of them again, although a very careful search was instituted. Now considering the ground for some distance round was tolerably bare of vegetation, their disappearance could, I think, only be explained by the fact that they had been removed by one of their parents.

The eggs in my collection are not unlike those of *G. gallinago*. They have a greenish-buff ground-colour, and are sparsely blotched, chiefly round the larger end, with pale greyish underlying and dark brown overlying marks. Size 1.6 × 1.2 in.

70. *SCOLOPAX RUSTICULA* Linn. Woodcock.

Scolopax rusticola Seebohm, B. Jap. Emp. p. 347.

Jap.: Bota-shigi.

In the summer the Woodcock is seemingly a common species in the non-coniferous parts of the Subashiri woods, for a nest was found on May 17th and, later, three lots of young birds. Returning late on the evening of June 2nd I observed a Woodcock going through that peculiar performance known as "rôding." This crepuscular flight was continued until it was almost quite dark

The clutch of eggs in my possession are typically marked and measure 1.65×1.3 in.

71. *LIMNOBÆNUS FUSCUS* (Linn.). Ruddy Crake.

Crex fusca erythrothorax Seebohm, B. Jap. Emp. p. 357.

Jap. : Hi-kuina.

In the swamps of Suzukawa I flushed a small Crake that doubtless belonged to this species.

72. *PHASIANUS VERSICOLOR* Vieill. Japanese Pheasant.

Phasianus versicolor Seebohm, B. Jap. Emp. p. 370.

Jap. : Kiji.

Preferring the open scrub to the dense woodlands, this Pheasant is still fairly plentiful in some districts; but it is sadly persecuted by the Japanese peasantry, who surreptitiously shoot it and its congeners at all seasons of the year. A still more reprehensible practice is that of trapping the female on the nest, which, I understand, is invariably done by the fortunate discoverer of the eggs.

Early in the morning and at sundown this bird's powerful crow was frequently heard in the neighbourhood of Subashiri, from whence I had a clutch of eight eggs brought to me on May 28th. These are light olive-brown, like those of the *P. colchicus*, but measure only 1.69×1.27 in.

73. *PHASIANUS SEMMERRINGI SCINTILLANS* Gld. Hondo Copper Pheasant.

Phasianus semmerringi scintillans Seebohm, B. Jap. Emp. p. 371.

Jap. : Yamadori.

I did not meet with this species in a wild state, but had ten eggs brought to me on May 27th that without doubt belong to this Pheasant. The nest, I was informed, was found in the forest about three thousand feet above sea-level. These eggs measure 1.72×1.3 in., and are of a rich cream-colour.

74. *COTURNIX JAPONICA*. Japanese Quail.

Coturnix communis japonica Seebohm, B. Jap. Emp. p. 373.

Jap. : Uzura.

I found the Quail a common species on the grassy slopes of the northern face of Fujiyama. By the beginning of June the birds had paired, but they apparently had not commenced to lay their eggs, as I found on dissecting a female that I shot. When flushed, two birds would nearly always rise together, shewing that the sexes keep in very close proximity at this season. The call of the Japanese Quail in no way resembles the melodious *whit, whit* of *C. communis*, and is a harsh, unmusical cry, impossible to express on paper.

EXPLANATION OF PLATE IV.

- Fig. 1. Egg of *Phylloscopus coronatus*, p. 142.
 2, 3. „ *Geocichla varia*, p. 132.
 4. „ *Gallinago australis*, p. 165.
 5. „ *Xanthopygia narcissina*, p. 140.
 6. „ *Larvivora cyane*, p. 137.
 7. „ *Parus varius*, p. 147.
 8, 9. „ *Emberiza yessoensis*, p. 155.
 10. „ *Urosphena squamiceps*, p. 144.

VI.—*Obituary.* MR. HOWARD SAUNDERS, DR. RUDOLPH BLASIUS, and PROFESSOR NATION.

1. MR. HOWARD SAUNDERS.—It is seldom that the Members of our Union—and, above all, the Editors—have to deplore the loss of so well-trying and trusty a friend as their late Secretary, Mr. Howard Saunders, whose death will be acutely felt, not only by his friends in England and abroad, but by many a London scientific society. Noted as a traveller and an ornithologist he was a conspicuous figure among the zoologists of the Metropolis, and his writings, marked as they were by exceptional care and accuracy, will serve as a model for many future generations. He spared no pains to make his own work as perfect as possible, and was never known to refuse his aid, in the interests of science, to those occupied in similar pursuits, while his various activities were only terminated by his death, which occurred at his London residence, 7 Radnor Place, W., on